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# Vulnerability: A review of reviews

Summary of findings from reviews identified from a systematic research map

Version 1.0

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# Executive summary

## Introduction

This paper summarises findings from systematic reviews, meta-analyses and rapid evidence reviews on factors associated with increased vulnerability to a range of harms, identified through a systematic map. Nineteen studies were included and related to a range of harms, including:

- child sex abuse (CSA) and child sexual exploitation (CSE)
- domestic violence
- bullying
- gang involvement
- youth violence
- mental health crises – particularly suicidal behaviour.

The initial aim of this study was to summarise evidence on risk factors and signs of victimisation vulnerability. Many of the papers considered victimisation from and perpetration of harm, however, so it was difficult to identify separate risk factors. As a result, risk factors for perpetration of harm have also been discussed in this report.

## Findings

Across the research, key points and issues were raised in relation to identifying and understanding vulnerability that cut across different harms. These are:

- **Causation** – much of the included research is correlational and so can only suggest an association or relationship between identified risk factors and the harm to which they relate.
- **Personal and situational factors** – personal and situational/environmental factors can increase the risk or vulnerability of a person to many of the harms discussed.
- **Complex interaction of risk factors** – much of the research suggests it is too simplistic to look at specific risk factors and that their strength may depend on context or interaction with other factors, particularly an interaction between personal and situational factors.

- **Perpetration and victimisation** – some factors were found to increase the risk of perpetration and victimisation of a particular harm and it is difficult to disentangle these effects or understand the mechanism by which this occurs. In some cases, being a victim may be a risk factor that increases the risk of perpetration.
- **Precursor harms** – some harms are also risk factors for other harms, for example, there is evidence that being a victim of child abuse increases the risk of involvement in CSE, domestic abuse and suicidal behaviour.
- **Commonality of risk factors** – some risk factors appear to be common to a range of harms.
- **Cumulative effect of risk factors** – there is evidence that an accumulation of risk factors can greatly increase vulnerability to harm.

It is clear from the reviews that there are gaps in our understanding of how personal and situational factors contribute to an individual's vulnerability. However, this synthesis does highlight many issues that police officers and staff should be aware of during initial encounters.

## Implications for policing

- For the frontline officer trying to identify vulnerability during an encounter, the range of risk factors in the research would be difficult to use, as many are common and others difficult to identify during initial contact.
- The complex relationships between risk factors suggests it would be difficult to develop a risk assessment for general vulnerability at initial contact that covers all situations and takes account of the research.
- To ensure effective assessment of risk of harm during police encounters, officers and staff need a good understanding of vulnerability evidence, communications skills to elicit information and tools to support informed decision making.
- Any operational definition of vulnerability and training needs to explain the role of personal risk factors and situational/environmental risk factors and any interaction between them.

## Evidence gaps

- No reviews of risk factors for radicalisation, involvement in violent extremism and victimisation or perpetration of hate crime were identified.
- It is unclear how some factors are associated with both victimisation and perpetration.

- It is unclear whether some factors are more important than others in determining increased vulnerability.

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# 1. Introduction

This report summarises findings from a review of published reviews, identified by a systematic map of evidence on signs of and risk factors for increased vulnerability to harm, produced on behalf of the College of Policing in 2016 (forthcoming). The College has used the map to search for and identify all systematic reviews, meta-analyses and rapid evidence reviews. The findings have been pulled together to produce an overview of the available evidence.

The purpose of this report is to examine the evidence available on the factors associated with increased risk from a wide range of harms and understand, where possible, any commonalities or interactions between them. The ultimate aim is to help police practitioners better understand the vulnerabilities of those they encounter, rather than thinking about risk in relation to individual forms of harm such as child abuse or domestic violence in isolation. The findings from the report will be used to inform police training and guidance.

## Background

The demand on policing has shifted away from volume crimes such as burglary, robbery and car theft and increasingly towards safeguarding and protecting vulnerable people. Both the Crime Survey for England and Wales (CSEW) and police-recorded crime series have shown long-term declines in theft offences (see Office for National Statistics (2017) **Crime in England and Wales: year ending Mar 2017**). While figures from the CSEW show the number of crimes (excluding fraud and computer misuse offences) has continued to fall, with seven per cent fewer incidents in 2016/17 than in 2015/16, this reduction has not been seen in the level of demand on police resources.

Police-recorded crime has risen in the last few years, with specific increases in the reporting of more complex crime types that may involve vulnerable victims. For example, the total number of recorded sexual offences rose by 14 per cent in 2016/17 and 38 per cent in 2016/15, continuing the upward trend seen since the year ending March 2012. This appears to be driven by improved recording processes and the willingness of a greater proportion of victims to report crimes to the police. As the **Crime in England and Wales: year ending Mar 2017** bulletin shows, categories directly relating to sexual offences against children contributed 40 per cent to the total increase in the number of sexual offences recorded by the police in 2016/17. Another area where there are increases in demand is in responses to people with mental health problems. Although there is no available national data on this,

work conducted by the Metropolitan Police for an Independent Commission for Mental Health and Policing suggested that, in 2013, 15-20 per cent of incidents were linked to mental health (see [Independent Commission on Mental Health and Policing Report \(2013\)](#)).

It is not clear how resource-costly this shift in demand is but, as many crimes involving vulnerable people are more complicated to investigate, there is a need to understand issues around vulnerability better.

Currently, evidence suggests that police forces are not well equipped to deal with this shift in demand. Her Majesty's Inspectorate of Constabulary and Fire & Rescue Services' (HMICFRS) 2015 report [PEEL: Police Effectiveness 2015 \(vulnerability\), a national overview](#) graded all 43 police forces on how effectively they supported victims and protected vulnerable individuals from harm. The majority of forces were judged as 'requires improvement', with only 12 determined as 'good' and four 'inadequate'. HMICFRS' 2017 report [PEEL: Police Effectiveness 2016. A national overview](#) showed that some forces had made improvements, however, there were still 16 forces judged as 'requires improvement' and five as judged as 'inadequate'. HMICFRS indicated that some of the approaches forces were taking to deal with increased demand and decreased resources put vulnerable people at serious risk of harm.

Previously, [a report](#) by HMICFRS and the Independent Inquiry into Child Sexual Exploitation in Rotherham highlighted a number of cases where CSE victims presented clear indicators of abuse that were either overlooked or discounted as a 'lifestyle' choice. This illustrates the shortfalls in how vulnerability, especially in relation to CSE, was being dealt with. In addition, HMICFRS' 2017 report on police effectiveness drew attention to failings in relation to vulnerable victims, especially victims of domestic abuse.

Frontline police officers are in a critical position in being able to identify signs of risk. There is therefore, an urgent need to create a police culture where vulnerability is recognised and understood at all levels.

## Risk assessment

A main focus of vulnerability research has been identifying risk factors associated with increased incidents of harm in particular situations, in order to develop risk assessments that can be used to prioritise action. For example, [DASH](#), the domestic abuse, stalking and honour-based violence model for risk identification, assessment and management, seeks to turn a reactive approach into a proactive one. For police officers attending the scene of an incident, it is not possible to have access to all relevant risk assessment frameworks and it

would be impractical to expect an officer to undertake all risk assessments that may or may not be relevant. When an individual presents more than one vulnerability, risk assessment becomes complex and beyond the reach of current tools.

Consequently, frontline officers and staff should be provided with an understanding that will support them when investigating and interpreting any situation they find themselves in, so they can make appropriate decisions and safeguard the individuals involved.

This aims of this study were to:

- evaluate reviews identified from a larger mapping study of the broader empirical and review literature to identify existing risk factors for and signs of vulnerability to a wide range of harms
- identify commonalities and cross-cutting themes and learning in the collated research to on what to consider when identifying vulnerability to harm
- consider how this information could be used to develop training and guidance to support officers and staff in day-to-day encounters.

## 2. Research methods

The reviews came from a systematic search undertaken for the College by Aldaba Ltd in April 2016. This was to identify existing published research evidence in relation to key signals of and risk factors indicating greater vulnerability. Aldaba were set the scope of existing research, including reviews relating to the above issue, and that the relevance of publications would be mapped from a review of the title and abstract.

### Research questions for the systematic map

The systematic map sought to answer the following questions:

1. What are the signs that indicate a greater vulnerability to harm or victimisation, including youth violence, gang involvement, CSA, CSE, domestic abuse, hate crime, disability hate crime, mental health problems or crises, extremism and radicalisation?
2. What are the risk factors (situational or individual) that indicate greater vulnerability to harm or victimisation, including youth violence, gang involvement, CSE, CSA, domestic abuse, hate crime, disability hate crime, mental health problems and crises, extremism and radicalisation?

The harms included in the search were identified by a group of internal and external researchers and policy leads at a workshop. The questions were broad in order to capture research on the range of harms police deal with and consider commonalities and interrelationships. Searching across a wide range of subjects does not necessarily identify all available research on each subject that might be found with more focused searching in individual areas. The aim of the report is to provide a broad overview.

## Searching

Alongside the search string (see [appendix 1](#)), it was required that the paper was published in English between January 2000 and February 2016. Additionally, it was specified that, while the focus was on policing, evidence about other practice areas, such as social work and education, were also in scope. The search string was applied to the following databases: Social Policy and Practice, PsychINFO, Web of Science and Applied Social Sciences Index Abstracts.

## Results

A total of 12,266 publications of experimental research and reviews were identified by the search string. Abstracts were reviewed against the following inclusion criteria:

- published from 2000 onwards
- published in English
- relevance to the research questions.

A list of exclusion subjects to further refine the search is included in the technical report ([appendix 1](#)). These were excluded from the map. Of the publications identified by the searches, 17 per cent (N = 2,098) were considered relevant in some degree to the research questions, but no quality assessment was made at this stage. The papers included primary research and reviews. Quality assurance checks were carried out to determine the level of agreement between reviewers when they coded the publications in relation to their relevance to the research questions. This revealed a 10 per cent discrepancy in relevancy. These were then discussed to reach agreement and further clarification added to the instructions for coding.

Due to the quantity of titles and the timescales for the piece of work, it was decided that the map would be used to identify systematic reviews, meta-analyses and rapid evidence reviews. Also, it would obtain a broad overview of existing research to support the development of police training and provide a starting point for future research.

## Limitations of the research map

A number of the map's limitations were identified. These include:

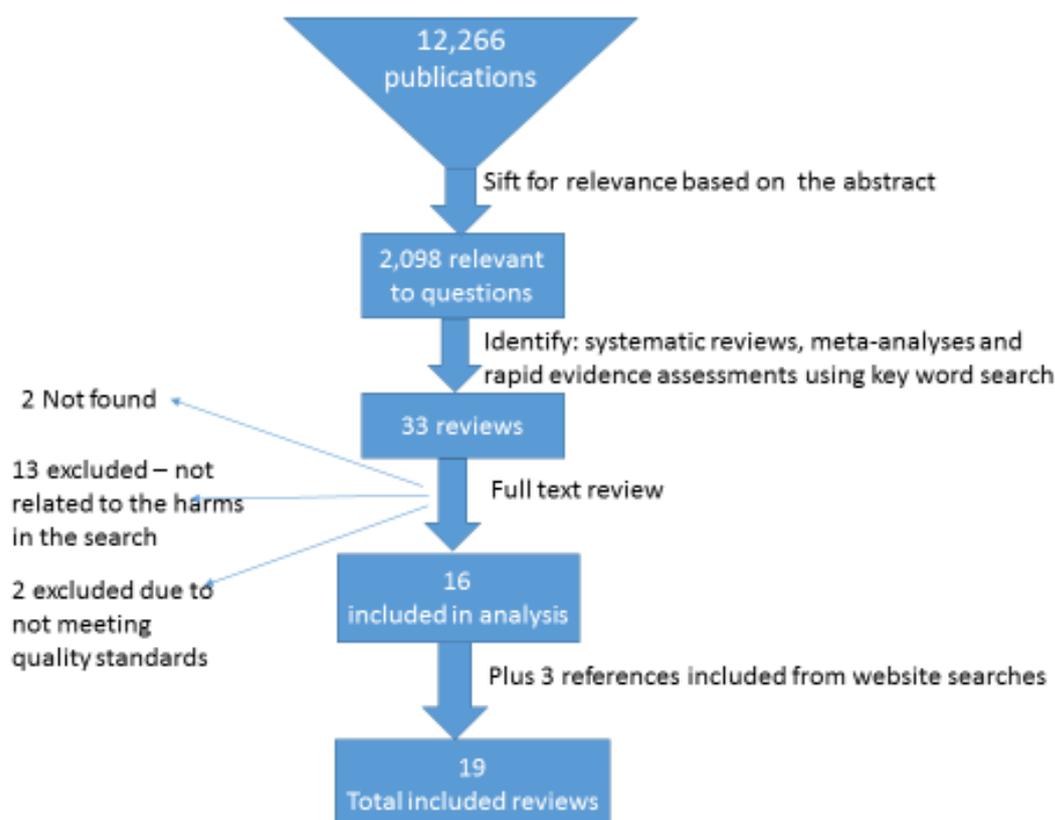
- Few publications identified were published in 2015, which could be the result of the databases still being updated for that year at the time of research. Therefore, it may be that the most recent research and evidence is not captured. With greater importance placed on vulnerability issues, especially in relation to topical issues such as CSE, it is possible that in the last year there has been an increase in research in this area that has not yet been captured.
- The map is based on a search using key words presented in the search string (see [appendix 1](#)). Papers not containing the key words were excluded. This is likely to have excluded research undertaken on other relevant areas such as health, where vulnerability to risk is not specifically mentioned.
- The focus of the search was on victimisation, not perpetration of harm. Many of the papers included in the map considered perpetration in addition to victimisation, but a wider range of research would likely have been identified if perpetration had been included in the search terms.

The large number of publications identified led to a decision, as stated above, to only review evidence found in systematic reviews, meta-analyses and rapid evidence assessments. As a consequence of the search limitations listed above, however, this evaluation of reviews should be considered a high-level overview that identifies key issues and areas for further research. It cannot be considered as a definitive review of risk factors for vulnerability to any specific harm.

## Review of reviews method

The initial systematic search identified 2,098 publications as relevant to the research questions. This included experimental and review publications. From this, a key word search of the map was implemented to find publications that were either systematic reviews, meta-analyses or rapid evidence reviews, identifying 33 studies in total. After recognising the limitations of the map, the College also carried out further searches to identify reports published in grey literature outside of the databases searched when producing the map. As a result, three further publications were identified as being relevant to the research questions (Brown et al 2016, Early Intervention Foundation (EIF) 2015, Wheller and Wire 2014). These reports were not included in the map because they were published outside of peer-reviewed journals, or after the search took place.

Diagram 1



## Critical appraisal

Using the full texts, the College reviewed all identified studies for inclusion in the current report against relevance and quality standards. The studies were reviewed in relation to their relevance to the questions. Those that did not investigate risk factors or signs were excluded. A range of papers related to bullying were identified and, after consideration, it was added to the list of included harms, as it was felt that victimisation by and perpetration of bullying had links across a range of the harms and provided a potential early warning sign for other harms.

A quality appraisal was undertaken using an adaptation of the **SURE Checklist**, to make judgements about how much confidence to place in reviews, taking into account risk of bias, validity and quality. The checklist takes into account the methods used to identify, include and critically appraise research included in individual reviews and the analysis methods used to produce the findings. An overall assessment of the level of confidence that can be placed in each review's conclusion was then produced, rated as low, medium or high. Studies showing no evidence of being based on systematic searching of the literature were

excluded. Two further papers were excluded as not meeting the quality criteria on the basis that no evidence of systematic searching was presented in relation to the identification of the studies included. In addition, it was not possible to retrieve two papers within the timescales available.

## Synthesis

The resulting 19 studies considered relevant and of sufficient quality were included in the analysis. These studies were synthesised using a narrative approach due to the wide variation in subject matter and methodological approaches between the publications, making any quantitative synthesis difficult.

The intention was that the synthesis would be focused on harms included in the search:

- CSE
- CSA
- domestic abuse
- hate crime
- disability hate crime
- mental health problems or crises
- extremism and radicalisation
- harm from youth violence
- gang involvement.

The systematic reviews, meta-analyses and rapid evidence reviews identified from the map did not cover all the harms searched for, however, and some of the identified reviews related to harms not in the initial list. For example, no systematic reviews or meta-analyses were identified relating to risk factors for harm from hate crime, disability hate crime, radicalism or extremism, whereas a number relating to bullying were included. In addition, the papers didn't just relate to victimisation risk factors from these harms, but also for perpetration of them. Many also investigated the experience of that harm as a risk factor for other harms.

To make sense of the range of reviews and meta-analyses identified, the following table categorises the papers by subject matter.

Table 1

Harm	Identifying factors that predict victimisation	Identifying factors that predict perpetration	Investigating as a risk factor for other harms
CSA/CSE	Brown et al (2016)	Brown et al (2016)	Klonsky and Moyer (2008) Homma et al (2012)
Domestic abuse	Costa et al (2015) Wheller and Wire (2014) Shorey, Stuart and Cornelius (2011)	Costa et al (2015)	
Mental health problems including suicide/suicidal behaviour	Serafini et al (2015) Gini and Espelage (2014) Palmier-Claus (2012) Milner et al (2014)		Douglas et al (2009)
Bullying/peer victimisation	Zych et al (2015) Alvarez-Garcia, Garcia and Nunez (2015)	Zych et al (2015) Alvarez-Garcia et al (2015)	Zych et al (2015) Ttofi et al (2011) Gini and Espelage (2014) Reijntjes et al (2011)
Gang involvement		EIF (2015)	
Offending/youth offending/antisocial behaviour		Ttofi et al (2011) EIF (2015) Wilson et al (2009) Anderson et al (2004)	

From table 1, it is clear that many of the reviews and meta-analyses captured look at risk factors for the perpetration of harms, including those related to youth violence and antisocial behaviour. It could be argued that involvement in perpetrating violence causes harm to the perpetrator, in that it can lead to criminalisation, prison and involvement in other harmful activities. Perpetration was not specifically searched for in the mapping exercise, however, and there is a body of literature resulting from prospective longitudinal studies that investigates pathways into crime and factors associated with delinquency not captured by this review. As a consequence, the section on youth violence should be considered with caution.

The content of each review was coded according to:

- the harm investigated and risk factors identified
- the nature of the association, ie, with perpetration, victimisation or both
- the populations to which the risk factors specifically related
- the strength of the association.

Any issues identified by the reviews about an evidence base were noted. Where effect sizes were given, only factors with high or moderate effect sizes were included (Cohen 1992). In some cases, effect sizes were not given, but care was taken to ensure that only factors with consistent evidence from the review to support them were included in the report. The final list of risk factors was then grouped into wider headings where appropriate. For example, adolescent behaviour problems and conduct problems at age 7-13 were grouped under childhood and adolescent behavioural problems.

Due to the limitations highlighted, the findings provide a broad overview of the range of risk factors and signs of vulnerability to harm as a whole. They will raise some of the key issues in understanding vulnerability, but will only provide an indicative picture for any individual harm.

### 3. Findings

The remaining sections of this report discuss findings from the reviews in relation to each of the areas of harm listed in table 1. Identified risk factors, key issues raised and evidence gaps will be outlined for each area.

#### Child sex abuse/child sexual exploitation

The search identified one rapid evidence review examining factors associated with the victimisation and the perpetration of CSA/CSE. In addition, two meta-analyses were identified that examined CSA as a risk factor for other harms.

Table 2 – Description of included publications

Study	Method	Research question/s	Risk factors identified
Brown et al 2016	Rapid evidence review – low confidence in conclusions	<p>What is known about indicators that suggest a child under the age of 18 is at heightened or reduced risk of becoming a victim of CSA/CSE in its various forms?</p> <p>What is known about indicators that suggest a child under the age of 18 may be at heightened, or reduced, risk of perpetrating CSA/CSE in the future and may benefit from preventative support, including using social media to identify risk indicators?</p> <p>What is the suitability of risk assessment tools and checklists in light of these above findings to identify future potential victims/perpetrators of CSA/CSE?</p>	<p>Relating to victimisation:</p> <ul style="list-style-type: none"> <li>• being disabled</li> <li>• being in residential care.</li> </ul> <p>Relating to perpetration (weak evidence base):</p> <ul style="list-style-type: none"> <li>• sexual abuse victimisation</li> <li>• other forms of abuse and neglect victimisations</li> <li>• atypical sexual interests/fantasies.</li> </ul>

Study	Method	Research question/s	Risk factors identified
Homma et al 2012	Meta-analysis based on 33 studies (32 cross-sectional, 1 probability sampling) – high confidence in conclusions	What are the magnitudes of the link between a history of sexual abuse and unprotected sex, multiple sexual partners and pregnancy involvement among adolescent boys in North America?	<p>Relating to a sample of adolescent boys:</p> <ul style="list-style-type: none"> <li>• history of sexual abuse.</li> </ul> <p>Sexually abused boys were significantly more likely than non-abused boys to report all three risky sexual behaviours: unprotected intercourse, multiple sexual partners and pregnancy involvement.</p>
Klonsky & Moyer 2008	Meta-analysis based on 43 studies – coded as high quality	What is the magnitude of association between CSA and self-injurious behaviour?	<p>Findings suggest that:</p> <ul style="list-style-type: none"> <li>• history of sex abuse</li> <li>• self-injurious behaviour</li> </ul> <p>correlate with psychiatric risk factors but that there was no support for one having a central cause of the other.</p>

Brown et al (2016) carried out a rapid evidence review on the indicators of CSA and CSE. In relation to victimisation, only three studies were deemed of a high enough quality that the variables identified could be confidently associated with an increased risk of victimisation. From these, they identified two indicators, being disabled and being in residential care. In relation to residential care, the studies indicated that features and cultures of residential settings and the histories of the children in residential care combine to increase the risk of victimisation across many forms of sexual violence.

This review noted that the other research suggested a range of potential indicators, but that the existing research evidence for indicators is weak. These potential indicators included:

- identity/demographic factors
- alcohol and drug misuse
- going missing
- running away
- escaping from abuse
- family difficulties
- association with gangs/groups
- first sexual contact at a young age
- frequent and particular types of use of social media
- fewer friends than peers
- a poor relationship with parents and an 'isolated position', combined with a setting in which a trusted relationship is formed.

From the Brown et al (2016) review, the research suggests that there are complex interrelationships between risk factors, making it difficult to disentangle the influence of each individual factor on the risk of becoming a victim of CSA/CSE. For example, being involved in gangs or groups has been identified as a potential risk indicator for becoming a victim of CSE, however, gang/group involvement itself is influenced by a range of other factors.

In relation to perpetration, Brown et al (2016) found that sexual abuse victimisation, other forms of abuse and neglect victimisation and atypical sexual interests/fantasies were indicators of increased risk. However, the evidence supporting these indicators was weak and sometimes contradictory. For example, they explain that although the 'cycles of abuse' explanation, ie, that sexual victimisation as a child increases the risk of perpetration of abuse later, is commonly cited, there is no clear account of the pathways by which sexual victimisation might lead to sexual perpetration. In addition, many victims of sexual abuse do not go on to perpetrate sexual abuse and not all sex offenders have a history of sexual abuse. Therefore, a history of sexual abuse is neither sufficient or a necessary condition for committing sexual offences as an adult. The same is true of those who have suffered neglect in childhood.

Brown et al (2016) noted the limited amount of high-quality research on risk factors for CSA/CSE and the methodological issues of much of the research, meaning that the identified factors should be considered indicators of risk. They emphasise the importance of recognising the limitations of evidence – the indicators of abuse identified do not necessarily cause someone to become a victim/perpetrator, nor are they necessary for

victimisation/perpetration to occur. Instead, they are factors that have been found to play a role in the trajectory of the victims and perpetrators of CSA.

This report further highlights the complex interconnection between a range of risk factors or vulnerabilities, including individual characteristics or behaviours, and structural factors which are not within the control of children and young people. Therefore, when considering what increases or reduces risk of CSA/CSE victimisation or perpetration, attention needs to be paid to both.

## Child sex abuse as a risk factor for other harms

Two meta-analyses identified in the systematic map examined the evidence of association between CSA and other harms. Klonsky and Moyer (2008) found a small association between CSA and self-injurious behaviour, indicating a relationship between experiencing harms and vulnerability to future harm. They also proposed that these relationships are likely to be complex. Further, they highlighted the difficulties surrounding many methodologies in this area and found that the strength of association varied among samples, in turn suggesting the strength of risk factors may be context dependent. For example, the relationship between CSA and self-injurious behaviour was strongest among clinical samples in which multiple psychiatric factors are also likely to be present. Caution should be exercised when generalising findings from specific samples and also from context to context.

The other meta-analysis (Homma et al 2012) examined the link between risky sexual behaviour in adolescent boys and CSA. The findings identified that sexually abused boys were significantly more likely than non-abused boys to report all three risky sexual behaviours: unprotected intercourse, multiple sexual partners and pregnancy involvement.

## Domestic abuse

Three reviews were identified that focused on evidence in relation to domestic abuse. These reviews looked at the evidence in relation to perpetration and victimisation of domestic violence.

Table 3 – Description of included publications related to domestic abuse

Study	Method	Research question/s	Risk factors identified
Costa et al 2015	Systematic review – based on 25 prospective longitudinal studies (minimum of two waves of data collection reported) – medium confidence in conclusions	What are the child and adolescent predictors of domestic violence experienced in the context of adult romantic relationships?	<p>Predictors of domestic violence perpetration included:</p> <ul style="list-style-type: none"> <li>• substantiated physical abuse in childhood or adolescence</li> <li>• adversity in the family of origin</li> <li>• child and adolescent behavioural problems</li> <li>• substance use in adolescence</li> <li>• adolescent peer risks.</li> </ul> <p>Predictors of perpetration and victimisation identified:</p> <ul style="list-style-type: none"> <li>• composite family adversity factor</li> <li>• poor parent child interactions</li> <li>• adolescent behaviour problems</li> <li>• conduct problems aged 7-13</li> <li>• alcohol and drug use in adolescence</li> <li>• substantiated physical abuse before 6,</li> <li>• adolescent dating violence victimisation.</li> </ul>
Shorey, Stuart & Cornelius 2011	Systematic review – based on 24 studies – low confidence in conclusions	Unclear.	<p>Relating to dating violence in college students:</p> <ul style="list-style-type: none"> <li>• alcohol use.</li> </ul>

Study	Method	Research question/s	Risk factors identified
Wheller & Wire 2014	Rapid evidence review – low confidence in conclusions	What are the risk factors associated with domestic abuse and what is the effectiveness of tools that predict risk of domestic abuse?	<p>Risk factors identified relating to violence during pregnancy:</p> <ul style="list-style-type: none"> <li>• lower education level (for women)</li> <li>• single relationship status</li> <li>• whether the pregnancy was unintended/unwanted by the victim or perpetrator.</li> </ul> <p>Although there is limited evidence on risk factors for domestic abuse, ie, those that predict the abuse, a range of factors that are associated with male perpetration and/or female victimisation of domestic violence have been identified. The strongest associations with violence perpetration were found to be:</p> <ul style="list-style-type: none"> <li>• emotional/verbal abuse</li> <li>• forced sex.</li> </ul>

A growing body of research has found that some risk factors relate to both the perpetration and victimisation of the harm in question. Costa et al (2015) conducted a systematic review examining prospective longitudinal studies which look at child and adolescent predictors of domestic violence. They highlight a number of factors that evidence the potentially dichotomous nature of risk factors in relation to perpetration and victimisation. They found that the following are all predictive factors of perpetration and victimisation in relation to domestic violence in both males and females in the context of stable adult relationships:

- substantiated physical abuse before the age of six
- physical abuse in adolescence

- family adversities
- adolescent behaviour problems
- conduct problems age 7-13
- alcohol and substance abuse.

Costa et al (2015) found that adult domestic violence perpetration and victimisation were highly correlated across studies. They suggested that the interrelationship may arise through common risk factors and through acts of perpetration of domestic violence leading to reciprocated domestic violence victimisation. Thus, teasing out specific predictors for perpetrators and victims may be difficult.

Shorey, Stuart and Cornelius (2011) focused their review on the relationship between dating violence and substance use in college students. The review included 18 studies in relation to male perpetrators, 14 studies relating to female perpetrators and 9 studies relating to both combined. For victims, the review included four studies relating to male victims, seven relating to female victims and two studies relating to both combined. Findings from this review supported the link between alcohol use and dating violence perpetration.

A rapid evidence review carried out by the College (Wheller and Wire 2014), found that the only clear risk factors related to violence during pregnancy included, the woman having a lower education level, a single relationship status and whether the pregnancy was unintended/unwanted by the victim or the perpetrator of abuse. Although the report found there was limited evidence on risk factors for domestic abuse, ie, those that predict the abuse, a range of factors that are associated with male perpetration and/or female victimisation of domestic violence were identified. The strongest associations with violence perpetration were found to be emotional/verbal abuse and forced sex.

In addition, possessing attitudes that condone violence or holding traditional sex-role ideology also had a moderate to large association with male perpetration of domestic abuse. Marital satisfaction had a moderate negative association with both male perpetration and female victimisation, that is, a high marital satisfaction decreased the risk and vice versa. A moderate to large association was identified between female violence towards her partner and increased likelihood of her becoming a victim of domestic violence.

## Mental health issues

From the map, a number of reviews and meta-analyses were identified, relating to risk factors for different aspects of mental health. In addition, some of the reviews identified mental health issues as risk factors for further harm. These studies are considered together in this section.

Table 4 – Description of included publications related to mental health problems and crises

Study	Method	Research question/s	Risk factors identified
Douglas, Guy & Hart 2009	Meta-analysis – based on 204 studies – high confidence in conclusions	What is the association between major mental illness and violence, focusing more specifically on psychosis?	Relating to both perpetrators and victims: <ul style="list-style-type: none"> <li>• Significant association between psychosis and a 48-68% increase in the odds of violence (moderating effects examined showed this association was not context specific).</li> </ul>
Milner, Page & LaMontagne 2014	Meta-analysis – based on five population cohort studies – high confidence in conclusions	What are the effects of adjustment for mental health on the relationship between unemployment and suicide?	In relation to increased risk of suicide: <ul style="list-style-type: none"> <li>• after adjusting for prior mental health, unemployment is still associated with a reduced but still significantly higher relative risk of suicide</li> <li>• greater exposure to unemployment was associated with higher relative risk.</li> </ul>

Study	Method	Research question/s	Risk factors identified
Palmier-Claus et al 2012	Systematic review/ meta-analysis – based on 20 retrospective questionnaires and longitudinal studies – medium confidence in conclusions	Does emotional instability increase risk of suicide?	In relation to increased risk of suicide: <ul style="list-style-type: none"> <li>• unstable mood.</li> </ul>
Serafini et al 2015	Systematic review/ meta-analysis – based on 28 studies – 11 cross-sectional, four case-control, seven longitudinal and six retrospective – high confidence in conclusions	Is there an association between the type and number of adverse life events and experiences and suicidal behaviour in adolescence and early adulthood?	<ul style="list-style-type: none"> <li>• There is a positive dose-response relationship between life adversities and youth suicidal behaviour.</li> <li>• One of the most significant adversities was experience of sexual abuse.</li> </ul>

Douglas et al (2009) conducted a meta-analysis, including the results from 204 studies, to determine the magnitude of association between major mental illness (focusing specifically on psychosis) and violence. They found a significant association with psychosis and a 45-68 per cent increase in the odds of violence. Due to the variation in methodologies of the studies and differing contexts around violence, the moderating effects of the violence setting, method of detection and severity were investigated.

The researchers found an association between psychosis and violence. The overall effect size was small, however, and varied across study features and aspects of psychosis and violence. There are many factors that affect the strength of this relationship. These factors include the type of psychosis and whether there are coexisting substance-related disorders in play. In addition, this finding does not take account of the people who have psychoses but do not commit violence. In conclusion, the relationship between psychosis and violence is a complicated one and always involves other factors.

Many of the publications relating to mental health problems and crises focus on the link between risk factors and suicide/suicidal behaviour. Serafini et al (2015) conducted a

systematic review to examine the effect of life adversities on suicidal behaviour in young adults. The review included 28 quality-assured studies, comprising 11 cross-sectional, four case-controls, seven longitudinal and six retrospective studies. Quality assurance conducted by the authors found the majority, at 15, were coded as moderate, three as high and 10 as low-quality. The authors found most studies reported a strong association between adversities and suicidality.

The adversities studied included:

- sexual abuse and molestation (sexual abuse without sexual contact)
- physical abuse and maltreatment
- child abuse and neglect not otherwise specified
- family dysfunction and exposure to domestic violence
- separation from or death of a biological parent, family member or close friend
- parental divorce
- poor interpersonal relationships
- breaking up with a boyfriend/girlfriend
- victimisation/distress at school.

There was also a positive dose-response relationship with number of adversities and risk of suicide, with the type of adversity being important. Positive-dose relationship refers to the cumulative nature of risk factors, so the more risk factors, or in this case adversities, an individual experiences, the greater the risk. One of the most consistent findings was that sexual abuse is a particularly powerful predictor of suicidal behaviour in young people, although it is not the only factor involved.

Milner et al (2014) carried out a high-quality, meta-analysis on five population-based cohort studies, examining the impact of unemployment on suicide. They found that the relative risk of suicide was significantly higher for the unemployed. Although, some of this risk was associated with prior mental health problems and when this was adjusted for, the risk from unemployment alone fell by over 35 per cent. The review also suggests a dose-response relationship, so longer periods of unemployment carried a higher suicide risk. Overall, the relative risk was higher for males than females. However, adjusting for prior mental health and 'small study' effects produced a positive but non-significant effect of unemployment alone on suicide risk.

Alongside this association, Palmier-Claus et al (2012) found a moderate association between unstable mood and increased risk of suicide over multiple time points. This finding

came from a systematic review and subsequent meta-analysis, including 20 studies, comprising retrospective questionnaires across several periods. The authors noted the moderate association remained significant, even when only including studies over multiple time points and controlling for study selection bias. Due to the methods used, only medium confidence can be placed on the findings.

## Bullying

The map identified four systematic reviews and one meta-analysis relating to bullying. These studies looked at the risk factors for being a perpetrator of bullying and being a victim, but also considered both as a risk factor for other harms, particularly suicidal behaviour and later offending. Although these studies could have been considered in the section on mental health, they are discussed here so that bullying and its effects can be considered together.

Table 5 – Description of included publications related to bullying

Study	Method	Research question/s	Risk factors identified
Alvarez-Garcia, Garcia & Nunez 2015	Systematic review – based on 85 studies – low confidence in conclusions	What are the predictors of bullying perpetration in adolescence?	Risk factors relating to perpetration of bullying: <ul style="list-style-type: none"> <li>• being male</li> <li>• age with the risk of bullying increasing until around 14, thereafter decreasing</li> <li>• being in a cultural or ethnic minority</li> <li>• impulsivity and hyperactivity</li> <li>• lack of empathy</li> <li>• poor theory of mind (ability to attribute mental states)</li> <li>• moral disengagement</li> <li>• aggressiveness</li> <li>• antisocial behaviour problems</li> <li>• placing blame on others</li> <li>• externalising problems</li> </ul>

Study	Method	Research question/s	Risk factors identified
			<ul style="list-style-type: none"> <li>• scarce parental control</li> <li>• scarce parental emotional support</li> <li>• exposure to family violence</li> <li>• having suffered physical and/or sexual harm/abuse</li> <li>• being friends with bullies, delinquents or belonging to gangs.</li> </ul>
Gini & Espelage 2014	Meta-analysis – based on 34 studies – low confidence in conclusions	What is the relationship between peer victimisation (perpetrated by peers) and suicidal ideation or suicide attempts?	<ul style="list-style-type: none"> <li>• Peer victimisation was found to be related to both suicidal ideation and suicide attempts among children and adolescents.</li> <li>• Cyberbullying was strongly related to suicidal ideation, compared with traditional bullying.</li> </ul>
Ttofi et al 2011	Systematic review/ meta-analysis – based on 28 longitudinal studies – low confidence in conclusions	To what extent does bullying perpetration at school predict offending later in life?	<p>Perpetration of bullying as a risk factor for offending later:</p> <ul style="list-style-type: none"> <li>• the probability of offending was much higher for school bullies than non-involved students, up to 11 years later (remaining significant after controlling for other major childhood risk factors).</li> </ul>

Study	Method	Research question/s	Risk factors identified
Reijntjes et al 2011	Meta-analysis – based on 14 longitudinal studies – medium confidence in conclusions	<p>To what extent does peer victimisation at baseline predict future residualised changes in externalising problems?</p> <p>To what extent do externalising problems at baseline predict future residualised changes in peer victimisation?</p>	Peer victimisation significantly predicts increases in externalising problems over time which in turn significantly predicts peer victimisation (bi-directional relationship).
Zych, Ortega-Ruiz & Del Rey 2015	Systematic review – based on 66 studies – all systematic reviews or meta-analyses – medium confidence in conclusions	No specific questions. The aim of the study was to conduct a systematic review of systematic reviews and meta-analyses, of research about bullying and cyberbullying.	<p>Medium and large effects sizes only shown*.</p> <p>Risk factors relating to bullying victimisation:</p> <ul style="list-style-type: none"> <li>• internalising problems</li> <li>• low social competence, low peer status.</li> </ul> <p>Risk factors related to bullying perpetration:</p> <ul style="list-style-type: none"> <li>• externalising behaviour, other related cognitions (eg, perspective taking or normative beliefs about others) negative relationship, low peer influence, moral disengagement.</li> </ul>

Study	Method	Research question/s	Risk factors identified
			<p>Risk factors for bully/victim status:</p> <ul style="list-style-type: none"> <li>• decreased peer influence, externalising behaviours, low social competence, low self-related cognitions, lower academic performance and the school climate.</li> </ul> <p>Bullying victimisation was identified as a risk factor for:</p> <ul style="list-style-type: none"> <li>• depression, low self-esteem, loneliness, generalised and social anxiety and suicidal behaviour</li> <li>• stress and suicidal ideation (cyber-victimisation).</li> </ul> <p>Bullying perpetration was identified as a risk factor for:</p> <ul style="list-style-type: none"> <li>• suicidal behaviour (+)</li> <li>• offending later in life (+)drug and alcohol use (cyber perpetration).</li> </ul> <p>Bully/victim status was identified as a risk factor for:</p> <ul style="list-style-type: none"> <li>• weapon carrying and suicidal behaviour.</li> </ul> <p>Risk factors for cyber bullying perpetration:</p> <ul style="list-style-type: none"> <li>• cyber victimisation, moral disengagement, normative beliefs about aggression.</li> </ul>

\* Medium effect sizes (r = .25 to .39, OR = 2.50 to 4.30 d or g = .50 to .79).

Large effect sizes (r > .40 or OR > 4.30 d or g = > .80).

A number of studies identified looked at the risk factors for bullying victimisation and perpetration. In relation to being bullied, Zych et al (2015) conducted a comprehensive systematic review of reviews on bullying and cyberbullying. The review considered 66 publications and found a range of factors were associated with an increased risk of being bullied. The authors found that there is an overlap between bullying and cyberbullying and a strong relationship between the two. The strongest associations with being bullied were internalising problems (such as being withdrawn), a lack of social competence and a lack of peer status.

From the Zych et al (2014) review, the strongest factors associated with being a bully were:

- externalising problems
- acting out aggressively
- a low level of other cognitions – including perspective taking
- a lack of peer influence
- moral disengagement.

A similar range of factors were found to be strongly associated with bully/victim status:

- low peer influence and status
- externalising behaviours
- low social competence
- low self-related cognitions
- low academic performance
- a poor school climate.

A further systematic review (Alvarez-Garcia, Garcia and Nunez 2015) focused on the predictors of school bullying perpetration in adolescence and also found increased risk from a range of psychological factors, including:

- externalising problems
- impulsivity and hyperactivity
- lack of empathy
- poor theory of mind (the ability to put oneself in another's shoes)
- moral disengagement
- aggressiveness

- antisocial behaviour problems
- placing the blame on others.

Most of the studies included were correlational, so it is not possible to make conclusions about causality.

In addition to this, Reijntjes et al (2011), in a meta-analysis of 15 longitudinal studies, found a link between peer-victimisation and externalising problems. They found that externalising problems functions as both an antecedent and consequence of being bullied. This means that being bullied is associated with increases in externalising problems over time and that, in turn, externalising problems significantly predicts increases in the likelihood of being bullied. Zych et al (2015) also found that externalising behaviours are associated with bully/victim status. Clearly, externalising problems and associated behaviours (hyperactivity, aggressiveness, delinquency, disruptiveness and under-controlled and antisocial behaviours) has an association with both perpetration of and victimisation from bullying. This further demonstrates the complex nature of risk factors.

Alvarez-Garcia et al (2015) discussed a wide range of factors that may be associated with an increased risk of being a bully but in many cases the evidence was inconsistent or limited. Their study did not include a meta-analysis or present information on the strength of the associations. Consequently, only the factors where they identified consistent evidence from multiple studies are discussed here. In the family environment, they highlight scarce parental control, scarce emotional support and exposure to family violence or abuse as risk factors for being a bully. In the school environment, they also suggest that a culture where bullying is common or tolerated and low academic achievement increase the risk.

Three of the studies included (Ttofi et al 2011, Zych et al 2015, Gini and Espelage 2014) looked at bullying as a risk factor for other harms. Ttofi et al (2011) found the probability of offending up to 11 years later was much higher for school bullies than students not involved, so bullying remains a significant risk factor after controlling for other major childhood risk factors. Zych et al (2015) also found that bullying perpetration was associated with later offending, along with suicidal behaviour and, in the case of cyber-bullying perpetration, with drug and alcohol use. Peer victimisation was found to be associated with mental health issues such as suicidal behaviour or ideation (Zych et al 2015, Gini and Espelage, 2014), depression, low self-esteem, loneliness and social anxiety (Zych et al 2015).

## Gang involvement

There were no reviews identified in the map coded as relating to gang involvement.

Therefore, the only evidence the College identified was that carried out as part of the EIF report (2015) on youth violence and gang involvement. This review was not systematic or exhaustive, but does provide indications from existing prospective longitudinal studies that look at gang involvement. Within a UK context, there is limited high-quality quantitative research into risk/protective factors in relation to gang involvement.

Other limitations noted in this research were that the research cannot identify causality only if the presence of the factor predicts the outcome of gang involvement and is therefore a useful sign. There is likely to be interaction between factors – as Farrington (2002) noted, the concentration and co-occurrence of these adversities makes it difficult to establish their independent, interactive and sequential influences on offending and antisocial behaviour.

Table 6 – Description of included publications related to gang involvement

Study	Method	Research questions	Risk factors identified
EIF 2015	Evidence review – low confidence in conclusions	Drawing on the international evidence – how and when can we identify the signs that children and young people may be at risk, and which types of programme interventions appear to work to prevent young people becoming or staying involved in gangs or violent youth culture?	<p>Strong risk factors:</p> <ul style="list-style-type: none"> <li>• marijuana use and availability (10-12)</li> <li>• displaced aggression and aggression traits (13-15)</li> <li>• anger traits (13-15)</li> <li>• low academic achievement in primary school (10-12)</li> <li>• learning disability (10-12)</li> <li>• neighbourhood youth in trouble (10-12).</li> </ul>

As the results of the report are based on correlates, it is not possible to determine the prediction power, only the strength of association. Nonetheless, they did identify a number of 'strong' risk factors that could enable an increased understanding of gang involvement risk.

A risk factor was assessed as strong if the relationship had an odds ratio of 3.0 or above, or a correlation coefficient of 0.25 or above.

The risk factors were categorised as individual, family, school, peer group and community. They were also specific about the age ranges the risk factors relate to, although some were common across all age groups. The strongest risk factors identified by the literature review were:

- marijuana use
- the availability of marijuana in the community
- low academic achievement
- learning disabilities
- neighbourhood youth in trouble for the age group 10-12.

At age 13-15, the strongest risk factors were aggression and anger traits.

From the studies included, there were other risk factors identified classed as of medium strength. A risk factor was assessed as medium strength if the relationship had an odds ratio of 2.0 - 2.9, or a correlation coefficient of 0.15 - 0.24.

At an individual level, lack of guilt and empathy was identified as a medium-strength risk factor for age groups 3-9 and 16-25, with a low strength also identified for 13-15 year olds. In the school environment, low attachment or commitment to school was a medium risk factor across all ages, from 7-25, with low school achievement as a separate medium risk factor for 7-12 and 16-25 year olds. Across age ranges 7-9 and 13-25, a broken home or change in caretaker and poor parental supervision were medium risk factors. Delinquent peers were also a common medium risk factor across the age groups 7-9 and 16-25.

From this, it is clear that risk factors may operate on a personal level, for example, having a learning disability, and on a situational level, such as neighbourhood youth in trouble. There is also evidence that a vulnerable individual may experience risk factors across contexts. For example, they may live in a neighbourhood where youths are regularly in trouble, use marijuana made available to them and have low academic achievement. When risk factors are present across contexts, there may be more opportunity for an individual to experience harm, in turn explaining multiple victimisation.

The findings of the EIF review suggests that risk factors have a cumulative effect, ie, the greater the number of risk factors experienced, the greater the likelihood of gang involvement. Also, where the risk factors appeared in all of the identified domains, the likelihood of gang involvement was enhanced. Specifically, in a policing context, it is

important to recognise that individuals with multiple risk factors may be at risk of harm across different contexts, not just the context in which initial police contact is made. The current evidence base is limited, however, so findings are tentative.

## Hate crime/disability hate crime/extremism and radicalisation

The main gaps, identified by the map in available publications were around hate crime/disability hate crime and extremism and radicalisation. No reviews were identified as relating to these harms within the research map. Although the systematic searching of a wide range of databases was conducted, the map is not comprehensive. The wide range of search terms and resources available meant that certain restrictions were put on the search. In order to determine if the gaps identified in the research are genuine, further searches focused on these harms need to be carried out to support the development of primary research in these areas.

## Youth violence and antisocial behaviour

The systematic map did not identify any reviews or meta-analyses that examined risk factors for becoming a victim of youth violence. However, it did identify two meta-analyses that investigated risk factors associated with involvement in, or perpetration of youth violence or antisocial behaviour. As perpetration was not the focus of the review, it is likely that a body of work looking at prospective longitudinal studies of delinquency was not picked up. As involvement in youth violence can be considered a harm in itself, however, it has been included in the analysis, with the caveat that the results are only indicative. An additional evidence review was identified by College researchers fitting the inclusion criteria but was published outside an academic journal and as such was not available on the databases searched. The review, conducted by the EIF (2015), also reviews the evidence on risk factors for involvement in youth violence.

Table 7 – Description of Included publications related to youth violence

Study	Method	Research question/s	Risk factors identified
Anderson 2004	Meta- analysis – low confidence in conclusions	Is there a significant link between exposure to violent video games and increased aggressive behaviour?	<ul style="list-style-type: none"> <li>• Playing violent video games is a strong predictor of violent behaviour.</li> </ul>
EIF, 2015	Evidence review – low confidence in conclusions	Drawing on the international evidence, how and when can we identify the signs that children and young people may be at risk, and which types of programme interventions appear to work, to prevent young people becoming or staying involved in gangs or violent youth culture?	<p>Strong risk factors* (related age groups in brackets) include:</p> <ul style="list-style-type: none"> <li>• substance use (7-9)</li> <li>• aggression (7-9)</li> <li>• previous offences (7-9)</li> <li>• troublesome (7-12)</li> <li>• disrupted family settings (7-15)</li> <li>• delinquent peers (7-15)</li> <li>• truancy and running away (7-25)</li> <li>• high daring (10-12)</li> <li>• positive attitude towards delinquency (10-12)</li> <li>• antisocial behaviour (10-12)</li> <li>• poor supervision (10-12)</li> <li>• gang membership (13-25)</li> <li>• low self-esteem (13-15)</li> </ul>

Study	Method	Research question/s	Risk factors identified
			<ul style="list-style-type: none"> <li>• high psychopathic features (13-15)</li> <li>• low commitment to school (13-15).</li> </ul>
Wilson, Stover & Berkowitz 2009	Meta-analysis – high confidence in conclusions	<ol style="list-style-type: none"> <li>1. What is the overall magnitude of the relationship between childhood violence exposure and juvenile antisocial behaviour?</li> <li>2. Does the magnitude of the relationship differ depending on the study design (prospective versus cross-sectional)?</li> <li>3. Does the relationship vary for different types of violence exposure (victimisation versus witnessing) or proximity (home versus community)?</li> <li>4. Does the relationship vary depending on the level (violent versus non-violent) and source (self/parent report versus official records) of antisocial behaviour?</li> <li>5. Are there differences in the relationship based on demographic factors (gender, SES, race/ethnicity)?</li> </ol>	<ul style="list-style-type: none"> <li>• There is a relationship between exposure to violence and future antisocial behaviour.</li> </ul>

\*A risk factor was assessed as medium strength if the relationship had an odds ratio of 2.0 - 2.9, or a correlation coefficient of 0.15 - 0.24.

The EIF (2015) review on gang involvement and youth violence highlights that it does not make statements about nor determine the causality of risk factors discussed. Instead, it suggests that it is more useful to address the question of which factors predict outcomes and could be used as risk signals. It is likely that the majority of, if not all, factors discussed throughout this report should be viewed in this way, as most vulnerable people will pose a range of factors that operate in complex ways. The research included in the EIF review looked at samples of different age groups, so for each factor, related evidence is paired with an age group, as shown in table 7. Across ages 7-25, truancy and running away, disrupted family settings and delinquent peers are all strong risk factors. In addition:

- between 7 and 9, substance use, aggression and being troublesome are identified as risk factors
- between 10 and 12, additional factors identified were high daring, antisocial behaviour, a positive attitude to delinquency and poor supervision
- between 13 and 15, the additional factors were gang membership, low commitment to school, low self-esteem and high psychopathic features.

It is unclear whether any of the factors are specifically more important, however, or how they interact with each other.

Wilson, Stover and Berkowitz (2009) carried out a meta-analytic review and found a relationship between exposure to violence and future antisocial behaviour. They warn that it is complicated, however, and unlikely to represent a linear, causal relationship. Other researchers have focused on more specific types of violence exposure. Anderson (2004) conducted an updated meta-analysis, assessing literature focusing on the effect that violent video games have on aggressive behaviour, aggressive affect, cardiovascular arousal and decreases in 'helping behaviour'. Anderson found that, as studies begin to apply stronger methodologies the effect size of this relationship has increased, indicating that playing violent video games is a strong predictor of violent behaviour. Due to the criteria employed by the College, only low confidence can be placed in these conclusions.

## 4. Overarching findings

The current report pulls together findings from relevant systematic reviews, meta-analyses and rapid evidence reviews, identified in the systematic map. The main purpose of this report was to examine the evidence available on risk factors for increased vulnerability to harm across different types in order to understand the commonalities and common issues raised. The intention was that this learning could be used to inform police practice on how best to identify and handle vulnerable people through developing appropriate training and guidance.

From the systematic map and website searches, 19 different evidence reviews on risk factors and signs of vulnerability were included in this study. However, there were clear evidence gaps identified. The report highlights the lack of high-quality evidence in relation to risk factors for becoming a victim of hate crime, disability hate crime and for becoming involved in radicalisation or extremism. Despite this, the current syntheses provide a starting point for understanding the current evidence base on what indicates that people may be vulnerable to other forms of harm and to highlight information that may be helpful for police responders. Due to the limitations of the systematic map, this report only provides broad indications and a starting point to inform future work.

Table 8 is a visual representation of risk factors identified for each of the harms discussed in the sections above. It is categorised by:

- the harms they are associated with
- whether they relate to an increased likelihood of victimisation, perpetration or both
- the strength of the evidence.

The table does not, however, provide a definitive picture of risk factors for each harm listed. It is instead a visual depiction of the range of factors identified and the complex picture they paint for vulnerability generally. It should be used in conjunction with the report to fully understand how the risk factors operate and their limitations. From the table above and discussion in previous sections, there are a number of points that are consistently raised in the research. These are discussed below.

Table 8 – All risk factors pertaining to victimisation, perpetration and both – including contextual information and evidence

	<b>Victimisation and perpetration</b>		<b>Victimisation</b>
	<b>Perpetration</b>		<b>No evidence</b>

Harms						
Factors	Youth violence	Gang involvement	CSE/CSA	Domestic abuse	Suicidal/ self-injurious behaviour	Bullying
<b>Disability/ learning disability</b>		EIF (2015)*	Brown et al (2016)*			Gini & Espelage (2014)*
<b>History of abuse</b>			Brown et al (2016)*	Costa et al (2015)** substantiated physical abuse	Serafini et al (2015)*** Klonsky and Moyer (2008)	Alvarez-Garcia, Garcia & Nunez (2015)*
<b>Emotional/ verbal abuse</b>				Wheller & Wire (2014)*		

Factors	Youth violence	Gang involvement	CSE/CSA	Domestic abuse	Suicidal/ self-injurious behaviour	Bullying
Alcohol and substance abuse	EIF (2015)*	EIF (2015)*		Costa et al (2015)** in adolescents Shorey, Stuart and Cornelius (2011)* College students only		
Internalising behaviours	EIF (2015)*			Costa et al (2015)**		Gini & Espelage (2014)* Alvarez-Garcia, Garcia & Nunez (2015*) Zych et al (2015)**
Externalising behaviours	EIF (2015)*	EIF (2015)*		Costa et al., (2015)** adolescent conduct or behaviour problems		Alvarez-Garcia, Garcia & Nunez (2015)* Zych et al (2015)**

Factors	Youth violence	Gang involvement	CSE/CSA	Domestic abuse	Suicidal/ self-injurious behaviour	Bullying
Impulsivity						Alvarez-Garcia, Garcia & Nunez (2015)*
Disrupted family settings/family adversities	EIF (2015)*			Costa et al (2015)** family adversities	Serafini et al (2015)***	
Being bullied					Gini and Espelage (2014)* Zych et al (2015)**	
Bully perpetration	Ttofi et al (2011)*					
Exposure to violence	Wilson, Stover & Berkowitz (2009)*** Anderson (2004)*only in the context of video games				Alvarez-Garcia, Garcia & Nunez (2015)*	

Factors	Youth violence	Gang involvement	CSE/CSA	Domestic abuse	Suicidal/ self-injurious behaviour	Bullying
Poor parent child interactions (including scarce parental control/emotional support)				Costa et al (2015)**	Alvarez-Garcia, Garcia & Nunez (2015)*	
Forced sex				Wheller & Wire (2014)*		
Exposure to family violence						Alvarez-Garcia, Garcia & Nunez (2015)*
Being in out of home care			Brown et al (2016)*			
Pregnancy unwanted/unintended by mother or father				Wheller & Wire (2014)* only in relation to violence during pregnancy in women		

Factors	Youth violence	Gang involvement	CSE/CSA	Domestic abuse	Suicidal/ self-injurious behaviour	Bullying
Child neglect/ maltreatment			Brown et al (2016)*			
Gang involvement	EIF (2015)*					Alvarez-Garcia, Garcia & Nunez (2015)*
Lack of peer influence/status						Zych, Ortega- Ruiz & Del Rey (2015)** Gini & Espelage (2014)*
Lower educational level				Wheller & Wire (2014)* only in relation to violence during pregnancy in women		

Factors	Youth violence	Gang involvement	CSE/CSA	Domestic abuse	Suicidal/ self-injurious behaviour	Bullying
Poor school attendance and attainment	EIF (2015)*	EIF (2015)*				Zych et al (2015)** Alvarez-Garcia, Garcia & Nunez (2015)*
Neighbourhood youth in trouble		EIF (2015)*				
Atypical sexual interests/ fantasies			Brown et al (2016)*			
Unemployment					Milner et al., (2014)***	
Unstable mood					Palmier-Claus (2012)**	

All factors that were found to be associated with suicide/suicidal behaviour/self-injurious behaviour have been coded as perpetration

\*\*\*high confidence in findings \*\*medium confidence in findings \*low confidence in findings

## Situational and personal factors

The current review of risk factors for and signs of vulnerability has identified how both personal and situational factors can contribute to risk (Brown et al 2016, Costa et al 2015, EIF 2015, Gini and Espelage 2014, Zych, Ortega-Ruiz and Del-Rey 2015). For example, Brown et al (2016) identified that living in residential care was a risk factor for being a victim of child abuse and exploitation. They stated that the studies included indicate that the features and cultures of residential settings combined with the histories of the children increase the risk of victimisation for many forms of sexual violence. Additionally, in relation to risk factors for gang involvement, the EIF (2015) review suggests that personal factors such as learning disabilities or low school achievement combine with situational factors, for instance the area they live in having a high level of neighbourhood youth in trouble, to increase the risk of gang involvement.

In the reviews included, it was not possible to determine whether situational or personal factors have more influence on the risk of vulnerability to harm. However, it is likely that the situational factors are those that frontline responders will be able to recognise and try to reduce risk for. Some of the personal factors could be difficult for frontline police officers to identify during initial contact, such as 'internalising behaviours'. The findings therefore emphasise the need for officers to be aware the impact the immediate environment has on a person's risk of harm. Any practical definition of vulnerability should, therefore, account for personal/individual and circumstantial/situational factors. The definition of vulnerability provided by the 'Threat, Harm, Risk, Investigation, Vulnerability and Engagement' model suggests:

'a person is vulnerable if as a result of their situation or circumstances, they are unable to take care or protect themselves, or others, from harm or exploitation.'

Under this definition, a person may be vulnerable due to individual factors, such as mental illness, learning disabilities or situation/circumstance, including intoxication or living in extreme deprivation. Failure to recognise situational risk factors may leave vulnerable people unnecessarily at risk of harm.

## The commonality of risk factors across harms

From table 8, it can be seen that a number of risk factors are common across a range of harms. For example, having a history of child abuse is associated with an increased risk of perpetration and further victimisation from CSA (Homma et al 2012, Bromberg and Johnson 2001), victimisation and perpetration of domestic violence (Costa et al 2015) and risk of

suicide (Serafini et al 2015). In addition, externalising behaviours in children increase the risk of involvement in gangs, youth violence and perpetration and victimisation of both domestic violence and bullying, later in life. Externalising behaviours are defined as problem behaviours directed toward the external environment. Instead of expressing their negative emotions or responses to life pressures in a healthy or productive way, people with externalising behaviours direct their feelings outward to other people or things.

It is likely that some risk factors leave individuals vulnerable in general, as opposed to any specific harms. For example, having a learning disability could mean that the presence of situational risk factors will make that individual vulnerable to harm, be that through the presence of an abuser or living in a neighbourhood where a high proportion of youths are in trouble.

## Risk factors for both perpetration and victimisation

The picture emerging from the discussion above illustrates the complex nature of vulnerability to harm. In particular, it highlights that the presence of some factors can increase the vulnerability risk of becoming either a victim or a perpetrator and also to a range of harms. It is not always easy to disentangle the impact of a risk factor on perpetration and victimisation. For example, Costa et al (2015) found that adult domestic violence perpetration and victimisation were highly correlated across studies. They suggested that this interrelationship could arise from common risk factors and through acts of domestic violence perpetration leading to reciprocated domestic violence victimisation.

Thus, teasing out specific predictors for perpetrators and victims may be difficult. Evidence from the studies included on bullying suggests that there is an association between externalising problems and both being bullied and bullying (Zych et al 2014, Reijntjes et al 2011, Alvarez-Garcia et al 2014). It is suggested by Reijntjes et al (2011) that externalising problems functions as both an antecedent and consequence of being bullied.

In relation to CSA perpetration, Brown et al (2016) found that sexual abuse victimisation was an indicator of increased risk. Supporting evidence for this indicator was weak and sometimes contradictory, however, as many victims of sexual abuse do not go on to perpetrate sexual abuse and not all sex offenders have a history of sexual abuse. Consequently, although a history of sexual abuse may be a factor associated with increased risk of sexual abuse perpetration later, it is neither a sufficient or necessary condition for adult sexual offending. There are other factors at work.

## Cumulative effect of risk factors

A number of the studies included suggest that risk factors accumulate and, as a result, pose a greater risk, ie, the more risk factors that are present, the greater the risk (EIF 2015, Klonsky and Moyer 2008, Milner et al 2014, Serafini et al 2015).

The EIF (2015) review on risk factors for gang involvement categorises them according to whether they relate to one of five domains: individual, peer group, community, school and family. The study suggests that where an individual presents risk factors in more than one domain, they are at increased risk and there are more opportunities for harms to occur. Serafini et al (2015) and Milner et al (2014) also found that there was a positive dose-response relationship with the number of adversities and risk of suicide. Positive-dose relationship refers to the cumulative nature of risk factors/adversities, so the more an individual experiences the greater the risk.

This finding is in line with research on adverse childhood experiences in the US and the UK (Bellis et al 2016, Felitti et al 1998), both of which demonstrated a strong and cumulative association between exposure to adversity during childhood and the adoption of health-harming behaviours and poor mental health across the life course. So, the greater the number of adverse childhood experiences an individual has, the greater the risk of various health-harming/health-related problems in later life.

## Causality

Most of the reviews included in this report stress that the factors identified are not indicators of causation and that the correlational design of the studies is such that this cannot be inferred. For example, being in residential care may be a risk factor for involvement in CSE/CSA, but it could also be that the real causal factor is something that put the child into residential care in the first place, such as abuse, neglect or exposure to violence.

Klonsky and Moyer (2008) found that there was an association between self-injurious behaviour and a history of sexual abuse, but it was not clear what the association was and the evidence did not conclude that self-injurious behaviour resulted from being a victim of sexual abuse.

Brown et al (2016) stressed the importance of recognising the limitations of risk and protective factors identified in this research and the need to understand that risk factors do not necessarily cause someone to become a victim/perpetrator, nor are they necessary for victimisation/perpetration to occur. Where risk factors discussed are associative and

causality has not been established, it is more appropriate to understand that these factors may play a role in a complex trajectory of said individual.

## Interaction effects

Many of the studies included in the review noted that there were likely to be interaction effects between identified risk factors. As Farrington (2002) noted in relation to offending and antisocial behaviour, the concentration and co-occurrence of these adversities makes it difficult to establish their independent, interactive and sequential influences.

While a number of studies suggest there may be an interaction between risk factors, there is a lack of evidence on how they work. For example, do certain risk factors make the presence of other risk factors more likely? Does this lead to a greater risk of vulnerability or is it necessary for certain situational factors to be present to interact with existing personal factors? The mechanisms are unknown and likely to vary according to context. The evidence also indicates risk factors may hold different weightings. Some risk factors in the personal and situational domains may pose a greater risk than others, however, there is little understanding of the relative importance of risk factors. The EIF (2015) report makes some attempt to understand this by discussing and summarising risk factors in terms of strength. However, further research is required to better understand the importance and strength of risk factors when combined with others.

What is clear is that it is essential to move beyond simplistic explorations of relationships between risk factors and harm, and towards an understanding of how personal, social and environmental factors interact and contribute.

## Limitations of the evidence

There are a number of limitations to this review that have been highlighted throughout the report and need to be taken into account when considering the findings. The systematic map used to identify the reviews used search terms to identify relevant research. As the research on risk factors and signs of vulnerability to harm is such a broad topic, it is likely that studies have been missed that could have been identified if more specific searching had been undertaken. As such, this review presents a broad overview of the issues related to risk factors for vulnerability.

At the outset of this work, the emphasis was on identifying risk factors for vulnerability to victimisation from harm. However, the review has picked up a range of studies that have identified risk factors for both perpetration and victimisation. If perpetration had been the

focus of the research, a wider range of research, particularly on youth violence, may have been identified.

Another cross-cutting issue that has emerged is that many of the findings have arisen out of research conducted on very specific examples. For example, Costa et al (2015) investigated the risk factors of domestic violence only in the context of adult stable relationships and Homma et al (2012) investigated the link between history of sexual abuse and unprotected sex, multiple sexual partners and pregnancy among only adolescent males. Therefore, it is not always possible to determine whether risk factors hold true across different samples and so those identified cannot be confidently generalised outside of the context in which they are discussed here.

## Findings on evidence gaps

While the findings discussed in this report offer an initial understanding of some of the evidence in relation to risk factors to various harms, the map does not provide a complete picture. It is important to identify the main evidence gaps, potential reasons for this and suggest ways of addressing these. This is so work can be prioritised in the future in order to meet the overall aims of the College in relation to policing and vulnerability.

The main areas in which no evidence was found were hate crime, disability hate crime and violent extremism. Further work needs to be conducted in order to determine the nature of these gaps, whether they are true gaps or whether there is an explanation rooted in the research map methodology that has failed to identify reviews for the risk factors of these harms. In addition, the EIF (2015) review highlighted the lack of quantitative evidence of risk factors related to gang involvement. Brown et al (2016) also mentioned that there is a need for further research into factors that predict the risk of involvement in CSE.

There is also a lack of evidence to indicate whether risk factors are static or dynamic over time. It cannot, therefore, be determined whether the factors identified can be generalised across an individual's life span. Further, there is limited evidence on how the risk factors operate in adulthood, with the majority of the evidence focusing on children or adolescents. It is not clear whether the same risk factors stay constant into adulthood and whether different risk factors hold different weight as an individual ages. Further research should seek to determine how static or dynamic risk factors are across an individual's lifespan in relation to multiple victimisation.

## 5. Conclusions and implications

This review of reviews has provided an initial overview of the current evidence available on risk factors for and signs of vulnerability to harm. The initial aim was to identify risk factors, commonalities and cross-cutting issues in relation to victimisation, however, the reviews included also considered perpetration of as well as victimisation. In some reviews (Costa et al 2015, Reijntjes et al 2011), the authors found it difficult to separate out the risk factors involved in perpetration from those for victimisation. As a result of these interactions and the need for police to understand both victimisation and perpetration and the links between them, both have been discussed in this paper.

In addition, the report has highlighted the complexity of risk factors for harm. For example, many people suffer from multiple adversities, personal and situational, which could have a cumulative effect or interact to increase their personal risk of harm. How these factors interact and which play the most important role in increasing vulnerability to harm is less well understood. A number of the studies included highlight the dichotomous nature of some factors found to increase the risk of perpetration and victimisation from a particular harm. It is not clear how this mechanism works but it is possible that, in relation to some harms, victimisation may play a role in increasing the risk of perpetrating the same harm (Costa et al 2015, Reijntjes et al 2011, Brown et al 2016).

The limitations of the systematic map mean that the research can only be seen as a broad representation of the issues around vulnerability to harm from victimisation and perpetration. The report also highlights that much of the research into risk factors is correlational and so it is difficult to state with any confidence whether the identified risk factors cause the harm they are associated with or vice versa. The fact that many of those identified are common highlights the fact that the presence of a risk factor is not an identification of victimisation or perpetration. It is more an indication of the likelihood of that harm occurring.

### Implications for policing

For the frontline officer trying to identify vulnerability during an encounter or incident, the range of risk factors identified by this research would be difficult to use. Many of the risk factors identified would also be difficult for an officer to identify during initial contact. Finally, the research suggests interactions exist between risk factors and that there could be a cumulative effect from multiple risk factors. The complexity of relationships between risk factors illustrates how developing simplistic risk assessments for vulnerability to harm could

result in misidentifying vulnerability. While there is clearly a place for risk assessments, particularly for use by specialist trained officers and in particular situations, there will never be a risk assessment that accounts for all events officers and staff are likely to encounter.

Ensuring that officers have a good understanding of evidence relating to vulnerability and equipping them with the skills to communicate well in order to elicit information that can be used to make informed decisions about the risk of harm is likely to be the most practical way to ensure effective safeguarding. Any training or guidance given on identifying vulnerability should provide a good understanding of the key issues raised by this report, including the limitations of the current evidence.

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# Appendix 1 – Search string

The final search string was as follows:

- (Vulnerab\* or risk\* or victim\*)
- and
- (sign\* or correlate\* or indicat\* or precurs\* or predict\* or probab\* or propens\* or serious\*)
- and
- (violen\* or abuse\* or aggressi\* or anti social or assault\* or bully\* or coerc\* or delinquen\* or disab\* or exploit\* or extortion\* or extremis\* or gang\* or harass\* or harm\* or hate or maltreat\* or missing or neglect or problematic or extremis or radicalis\* or runaway\* or stalk\* or sex\* or porn\* or prostit\* or scarred sex or domestic abuse or forced marri\* or honour based violence or mental substance abuse or alcohol\* or addict\* or dependence or drink\* or drug abuse)
- not
- (war\* or veteran\* or gene\* or disaster\* or hiv or aids or military\* or pain\* or patient\* or depression or army or sleep\*)

# Appendix 2 – Relevance and methodological quality coding

Aldaba relevance codes	
Code	Definition
High	The full text is likely to explicitly include evidence of understanding the vulnerability risks or spotting the vulnerability signs that are in scope when the practitioner is face-to-face with a vulnerable person, including residential settings.
Medium	The full text is likely to explicitly include evidence of understanding the vulnerability risks or spotting the vulnerability signs that are in scope but not necessarily when the practitioner is face-to-face with a vulnerable person, including residential settings.
Low	The full text may be relevant, but to confirm this we would require details beyond just those available in the title and abstract. This includes evidence from South America, Africa, and Asia.
Not relevant	<p>The full text is unlikely to be relevant, including:</p> <ul style="list-style-type: none"> <li>• broader evidence on reducing crime, managing offenders, reoffending, implementing broad polices and laws</li> <li>• court and prison settings, jury decision making</li> <li>• Rotherham and other specific settings</li> <li>• re-entry into social care, success of social care placements</li> <li>• practitioner victimisation, drug taking, or domestic abuse where practitioner is the perpetrator</li> <li>• perceptions of police effectiveness, factors influencing reporting victimisation to the police</li> <li>• evaluations of risks and outcomes after having participated in specific interventions and programmes</li> </ul>

	<ul style="list-style-type: none"> <li>• risk assessment and other practitioner tools, unless the research prior to developing them is explicitly mentioned</li> <li>• perceptions of risks or fears rather than actual risks by victims, teachers, parents, bystanders or others, unless they relate to chances of victimisation, for example, how feeling left out relates to bullying victimisation</li> <li>• focus on protective factors, coping strategies, attitudes, attachments and religious belief as protective factors; quality of support by services or individuals</li> <li>• immigration, trafficking</li> <li>• focus on specific ethnic groups, ethnic discrimination, human rights abuses, consequences of war</li> <li>• terrorism</li> <li>• homelessness</li> <li>• financial difficulties, scamming</li> <li>• gambling, internet addiction</li> <li>• video games glorifying risk, media influence on alcohol intake, sexual behaviour or violence, unless other themes in scope are also included in the publication</li> <li>• drink and drug driving, attitudes and consequences for driving behaviour</li> <li>• alcohol consumption as a sporadic event, unless explicitly linked to violence or related to sexual assault, or other types of vulnerabilities in scope, alcohol consumption in college or university settings, for example, pre-drinking</li> <li>• sexual risk taking, including after consuming alcohol or other substances, where the focus is solely on failure to use contraceptives, or relates to sexually transmitted diseases, without explicit reference to sexual victimisation</li> <li>• cigarette smoking initiation and quitting, where not linked to other types of substance misuse, smoking tobacco using a hookah pipe unless linked to other forms of substance misuse.</li> </ul>
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